

U.S.S.N. 10/791,607

Remarks

Thorough examination by the Examiner is noted and appreciated.

The claims have been amended.

No new matter has been added.

For example, support for the amendments and new claims are found in the originally and previously presented claims, the Figures (including Figures 2A and 2B) and the Specification:

Claim Rejections under 35 USC 102

1. Claims 26-28 and 31-33 stand rejected under 35 USC 102(e) as being anticipated by Chen et al. (US 7,038,230)

Chen discloses a phase change memory structure 30 that has

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a **trapezoid shape** (Figure 2a, 3) that has width 36 with a **vertical sidewall and an upward sloping (slanted) top portion** having a maximum height 34 adjacent a dielectric 55 (col 6, lines 46-50).

Thus, Chen et al. fails to disclose several aspects of Applicants invention including those elements in **bold type**:

With respect to claim 26:

"A phase change memory structure comprising:

a substrate comprising a conductive area;

a spacer comprising a phase changing material sensitive to temperature and **having a partially exposed sidewall region at the spacer upper portion defining a contact area, said contact area and said spacer sidewall comprising an upward sloping positive radius of curvature;**

an upper conductive electrode on said contact area;

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wherein a spacer bottom portion partially overlaps the conductive area and said upper conductive electrode at least partially overlaps said contact area."

With respect to claim 28:

"A phase change memory structure comprising:

a substrate comprising a conductive area;
a spacer having a **partially exposed sidewall region** at the spacer upper portion defining a contact area **having an upward sloping positive radius of curvature**, said spacer sidewall comprising **said upward sloping positive radius of curvature extending along the full height of said spacer**;

an upper conductive electrode at least partially overlapping said contact area;

wherein the spacer comprises a phase changing material sensitive to temperature, said spacer further comprising a memory element; and,

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wherein a spacer bottom portion at least partially overlaps the conductive area."

Chen et al. nowhere disclose a **partially exposed sidewall region**. Rather the entire trapezoidal shaped **phase change element** has a slanted top portion and vertical sidewall that are fully exposed.

Chen et al. **nowhere defines the contact region of the phase change element** including an **exposed sidewall region**, but rather the overlying electrode 40 is merely disclosed to be "disposed adjacent" (col 8, lines 3-8) and "operatively coupled with" (claim 1) the phase change element.

Chen et al. nowhere disclose that the sidewall of the phase change element or the contact area comprises a **positive radius of curvature**; but rather disclose a phase change element having a **top that is slanted and a sidewall that is vertical**.

Thus, Chen et al. is insufficient to anticipate the instantly claimed invention.

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**TO ANTICIPATE A CLAIM, THE REFERENCE
MUST TEACH EVERY ELEMENT OF THE
CLAIM**

"A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). "The identical invention must be shown in as complete detail as is contained in the ... claim." *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989). The elements must be arranged as required by the claim, but this is not an *ipsissimis verbis* test, i.e., identity of terminology is not required. *In re Bond*, 910 F.2d 831, 15 USPQ2d 1566 (Fed. Cir. 1990). Note that, in some circumstances, it is permissible to use multiple references in a 35 U.S.C. 102 rejection. See MPEP § 2131.01.

Since the cited reference fails to disclose the elements of the instantly claimed independent claims, neither are the elements of the dependent claims disclosed, such elements further supporting patentability.

Conclusion

The cited reference fails to provide the elements of Applicants invention and is therefore insufficient to make out a *prima facie* case of anticipation.

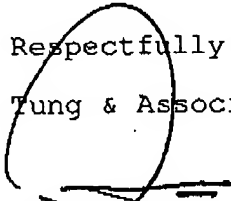
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The claims have been further amended. A favorable consideration of Applicants' claims is respectfully requested.

Based on the foregoing, Applicants respectfully submit that the Claims are now in condition for allowance. Such favorable action by the Examiner at an early date is respectfully solicited.

In the event that the present invention as claimed is not in condition for allowance for any reason, the Examiner is respectfully invited to call the Applicants' representative at his Bloomfield Hills, Michigan office at (248) 540-4040 such that necessary action may be taken to place the application in a condition for allowance.

Respectfully submitted,
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